

Assessment of the quality of life of persons with traumatic damage to the peripheral nerves of the upper limb

Olena Bismak

National University of Ukraine on Physical Education and Sport, Kyiv, Ukraine

Purpose: to assess the quality of life of people with traumatic injuries of the peripheral nerves of the upper limb during surgical treatment.

Material & Methods: analysis of scientific and methodological literature; questionnaires, methods of mathematical and statistical data processing. To assess the quality of life, we used the "Brief Health Status Assessment Questionnaire" (MOS SF-36) and "Methodology for assessing the quality of life of a patient" by D. M. Aronov, 2002. SF-36 consists of 36 questions grouped into 8 scales: physical functioning, role-playing activities, bodily pain, general health, vital functions, social functioning, emotional state and mental health. The methodology for assessing the quality of life of a patient according to D. M. Aronov (2002) consists of 17 questions. The technique allows you to evaluate how much the patient considers his life to be full and with what he associates changes in the quality of life. The study was conducted on the basis of SI "Institute of Neurosurgery named after acad. A. P. Romodanova, National Academy of Medical Sciences of Ukraine", Department of Reconstructive Neurosurgery. The examination involved 27 patients with traumatic injuries of the peripheral nerves of the upper limb. All patients underwent surgical treatment.

Results: an assessment was made of the physical and psychological health of individuals with traumatic neuropathies of the upper limb according to SF-36. It was revealed that patients with this pathology by the physical health component scored an average of 28 to 71 points. The mental health indicators of these patients did not differ significantly from physical health (30–67 points). In general, among patients, an average level of quality of life was observed – in 74.1% of cases. A low level of quality of life was found in 4 patients (14.8%), a high level in 3 (11.1%). After assessing the quality of life of patients with traumatic neuropathies of the upper limb using the "Methods for assessing the quality of life of a patient" by D. M. Aronov (2002), we found the following: the main reason for the decline in the quality of life of 88.9% of patients was the need to perform surgery on the affected upper limbs, prolonged treatment and the need for rehabilitation courses.

Conclusions: a decrease in the quality of life in patients with traumatic neuropathies of the upper limb is due to the need to be treated, a decrease in activity in everyday life, restrictions on leisure and work, a change in the attitude of friends, friends and colleagues, and a decrease in wages.

Keywords: quality of life, neuropathy, trauma, upper limb, questionnaire, MOS SF-36.

Introduction

Currently, the quality of life (QOL) of neurological patients is sharply reduced. Such patients lose their ability to work, in most cases they become disabled, their social activity decreases, as a result of which many of them may be susceptible to depressive states [4]. Diseases of the peripheral nervous system lead to impaired physical condition of the patient and contribute to changes in many other areas – emotional, mental, social. Therefore, an important task in the rehabilitation of neurological patients is not only partial or complete restoration of their lost functions, reduction of pain, but also the restoration and improvement of patients' QOL [3].

One of the most well-known QOL assessment methods is the "Brief Health Status Assessment Questionnaire" (official version of the 36-item MOS Short-Form Health Survey (MOS SF-36)). The SF-36 questionnaire is a non-specific patient QOL assessment questionnaire that is widely used in QOL studies in Europe and the USA. The questionnaire reflects the general well-being and degree of satisfaction with those aspects of human life that are affected by the state of health [5; 11].

However, despite an intensive study of QOL in neurology, QOL

determination in patients with traumatic neuropathies of the upper extremities remains poorly understood. It should be noted that for many neurological diseases, special questionnaires to assess and monitor the physical, psychological and social condition of the patient during the rehabilitation phase with physical factors are not enough.

Purpose of the study: to assess the quality of life of people with traumatic injuries of the peripheral nerves of the upper limb during surgical treatment.

Material and Methods of the research

Research methods: analysis of scientific and methodological literature and; survey, methods of mathematical and statistical data processing.

To assess QOL, we used the "Brief Health Status Assessment Questionnaire" (MOS SF-36) and the "Methodology for assessing the quality of life of a patient" by D. Aronova, 2002 [1; 10; 14]. SF-36 consists of 36 questions grouped into 8 scales: physical functioning, role-playing, bodily pain, general health, vitality, social functioning, emotional state and mental health. The indicators of each scale are designed in such a

way that the higher the value of the indicator (from 0 to 100), the better the score on the selected scale. Two parameters form from them: the physical component of health (Physical Health) and the psychological component of health (Mental Health). The physical component of health includes scales for "physical functioning", "role-based physical functioning", "pain intensity" and "general health". The constituent scales of the psychological component of health are "mental health", "role-playing emotional functioning", "social functioning" and "vitality" [12; 13].

The methodology for assessing the quality of life of a patient with D. M. Aronov (2002) consists of 17 questions. The time for filling out the questionnaire is from 30–40 s to 5 minutes. The technique allows you to evaluate how much the patient considers his life to be complete and what changes in QOL are associated with [1].

The study was conducted on the basis of the State Institution "Acad. Institute of Neurosurgery A. P. Romodanova, National Academy of Medical Sciences of Ukraine", Department of Reconstructive Neurosurgery. The examination involved 27 patients with traumatic injuries of the peripheral nerves of the upper limb, of which 21 were men (77,8%), 6 (22,2%) women, and the age of the patients ranged from 17 to 68 years. Among the examined patients, patients with working professions predominated (62,9%), the percentage of employees was lower (37,1%). All patients underwent surgical treatment.

Results of the research

Traumatic injuries of peripheral nerves occur with a frequency of 0,5 per 10 thousand. Population. Annually in Ukraine, up to 2500 cases of traumatic injuries of peripheral nerves are recorded, causing long-term disability and disability in 75–81% of patients [8]. Lost function of the limb cannot always be restored due to the implementation of one surgical intervention, especially when it comes to severe or combined injury. Satisfactory results of the restoration of the function of the injured limb are observed in 53–88% of the injured [7], 25–30% of the operated patients with peripheral nerve injury require repeated surgery [8].

A successful combination of modern medical and rehabilitation techniques and the improvement of well-known diagnostic methods and surgical treatment of patients with peripheral nerve injuries make it possible to predict the course of the disease and get as close as possible not only to a satisfactory treatment outcome, but also to improve the quality of life of patients [8; 9].

QOL is one of the basic concepts of modern rehabilitation and is a comprehensive assessment of the physical, psychological, emotional and social functioning of the patient, based on his subjective perception [2]. The complexity of determining QOL is determined by the patient's subjective perceptions of his suffering, because in some cases there is no direct relationship between the severity of the disease and the level of suffering [6].

Describing the SF-36 questionnaire, it is necessary to note the importance of each of the 8 scales as different components of health. The scale of "physical functioning" characterizes the range of feasible physical activity and determines the ability to perform various physical activities: the minimum

"physical function" is the ability to self-service, the maximum is the free performance of all types of physical activity (long walking, running, playing sports) without restrictions [5; 15].

"Role-playing physical functioning" scale determines the effect of a physical condition on work or other daily activities. The scale allows you to assess the ability to perform work related to professional activities, housekeeping, etc. Low indicators on this scale indicate that everyday activity is significantly limited by the physical condition of the patient.

The scale "physical pain" reflects the severity of the pain syndrome and its effect on the patient's normal activities. Low scores on this scale indicate that pain significantly limits patient activity. The minimum value of the scale suggests the occurrence of a very strong or prolonged pain syndrome, which cannot but affect the assessment of QOL. The maximum score is an indicator of the complete absence of pain.

The scale "general health" allows you to judge the general condition of the patient. According to this component of the questionnaire, the subjective perception of the previous and current state of health is evaluated, and the prospects for its change are determined. The minimum value of the scale corresponds to a low assessment of one's state of one's health, or indicates a patient's conviction that his state of health will worsen. The maximum value corresponds to the patient's personal beliefs in excellent health.

The scale of "vitality" implies a feeling of being full of strength and energy, or, conversely, exhausted. Low scores indicate patient fatigue, decreased vital activity. High – about feeling energetic and full of strength for most of the time.

The scale of "social functioning" reflects limitations in social life, the ability to fully communicate with relatives, friends, family, and the possibility of adequate professional communication. The scale is determined by the degree to which a physical or emotional state affects social activity. Low scores indicate a significant limitation of social contacts, a decrease in the level of communication due to the deterioration of physical and emotional state.

The scale of "role-playing emotional functioning" reflects the emotional status of the patient, allows you to judge the effect of emotions on everyday activity, behavior with others. The presence or absence of problems during work or other ordinary activities as a result of emotional problems is assessed. Low indicators on this scale are interpreted as a restriction in the performance of daily work due to a deterioration in the emotional state.

The "mental health" scale characterizes the patient's mood: the presence of anxiety, depression, neurotization, a decrease in emotional and behavioral control, gives an estimate of the overall indicator of positive emotions. Low scores indicate the presence of depressive, anxious experiences, mental distress [5; 15].

Based on the foregoing, we conducted a survey of patients with traumatic neuropathies of the upper limb. When analyzing the initial state of physical and psychological health using the SF-36 questionnaire, it was found that patients with traumatic neuropathies in the physical health component scored an average of 28 to 71 points. The mental health indicators of

Reasons for the decline in the quality of life in people with neuropathies of the upper limb according to the questionnaire "Methods for assessing the quality of life of a patient" (by D. N. Aronov, 2002)

Reasons	number of patients, n=27	
	Abs. units	%
Presence of injury / disease	22	81,5
Need to do surgery on the affected upper limb, continued to be treated and undergo rehabilitation courses	24	88,9
Restrictions on the performance of their duties at work, reduction of time spent at work and salary	16	59,3
Presence of pain	13	48,1
Exercise restriction	15	55,6
Limitations of activity in everyday life, in self-care	16	59,3
Restrictions on doing recreational physical education and sports	10	37,0
Restrictions on spending leisure time with family, friends	11	40,7
Disease-related life limitations related to doctor's recommendations	9	33,3
Fear of causing harm to health	6	22,2
Experiences for your health after treatment	18	66,7

these patients did not differ significantly from physical health (30–67 points).

In general, the average QOL level was observed among patients – in 74,1% of cases. Low QOL was detected in 4 patients (14,8%), high – in 3 (11,1%).

After assessing the QOL of patients with traumatic neuropathies of the upper limb using the "Methods for assessing the quality of life of a patient" by D. Aronov, we found the following: the main reason for QOL reduction was 88.9% of patients who called for surgery on the affected upper limb, continued to be treated and take rehabilitation courses (Table).

In addition, 81,5% of the patients tested fully or partially associated changes in the quality of life with the presence of the disease; 59,3% were worried about activity limitations in daily life and self-care; 55,6% were forced to limit physical activity; 59,3% of patients suffered due to the fact that the disease led to restrictions on work and lower salaries; 51,2% were worried about limitations in physical education and sports.

Patients with traumatic neuropathies of the upper extremity often (48,1% of cases) indicated as one of the reasons that caused life restrictions in connection with the disease (changes in their condition, changes at work, changes in leisure activities, etc.) the presence of pain. Less often, patients noted

that the limitations in their lives due to illness associated with the recommendations of a doctor (33,3%), fear of causing harm to their health by stress (22,2%).

So, in order to conduct effective rehabilitation of patients with traumatic neuropathies of the upper limb, it is necessary to conduct surveys using SF-36 and the "Methods for assessing the quality of life of a patient" by D. Aronov, highlight the leading factors that worsen physical and psychological health, and give them special attention in the rehabilitation process.

Conclusions / Discussion

The decrease in the quality of life in patients with diseases of the peripheral nervous system is due to the need to be treated, a decrease in activity in everyday life, restrictions on leisure and work, a change in the attitude of friends, friends and colleagues, and a decrease in wages.

Questionnaires SF-12 and QOLP are convenient for use (require little time to fill out and count test results, informative). They can be recommended for assessing the quality of life of patients with traumatic neuropathies of the upper limb.

The prospects for further research are to develop an algorithm for the use of rehabilitation tools to improve the quality of life in case of neuropathies of the upper limb.

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Information about the Authors

Olena Bismak: PhD (*Physical Education and Sport*), Associate Professor: National University of Ukraine on Physical Education and Sport: Fizkul'tury str. 1, Kyiv, 03150, Ukraine.

ORCID.ORG/0000-0002-6495-6170

E-mail: ebismak@gmail.com